

the ancient Nubians is full, accurate, and interesting, and provides a wealth of data which is quite new. His observations on their diseases and injuries opens a fresh chapter in pathology; for the first time we have a precise knowledge of the ailments and diseases of ancient races. No certain evidence of syphilis was found in Nubia, tuberculosis was extremely uncommon, rickets was unknown, but that chronic disease of joints, rheumatoid arthritis, was extremely common, especially in the predynastic inhabitants. Stone in the bladder and kidney occurred but seldom, but appendicitis evidently occurred, for in the illustration reproduced in Fig. 4, a band of adhesion—signifying a former inflammation of the appendix—is seen to pass across the pelvis of a young woman found in a cemetery of the Byzantine period. Gout was also known; and a sketch by Dr. Wood-Jones shows the basal joint of the big toe of a man loaded with "chalk" stones. Caries of the teeth, so prevalent now amongst European races, was unknown amongst the predynastic Egyptians, but in lower Egypt, it had appeared in the wealthier class by the time of the earlier dynasties. It did not become common until early Christian times in Egypt.

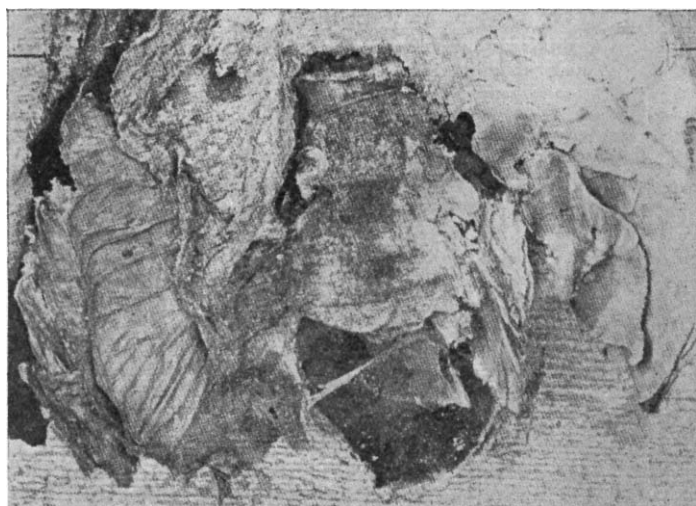


FIG. 4.—Pelvic viscera, showing an adhesive band attached to the appendix from a young woman of the Byzantine period.

There cannot be two opinions of the scientific value of the report prepared by Prof. Elliot Smith and Dr. Wood-Jones; they have made a contribution to our knowledge of racial anatomy and disease, of which the Egyptian Government and English anatomists may well be proud. But it is also clear that this contribution is only a first instalment to a very large and important subject, which must be studied now, otherwise the opportunity will have gone for ever. Both authors have returned to England, and it is greatly to be desired that the Egyptian Government will see that the work they have begun so well will be continued.

THE GERMAN EXCAVATIONS AT BABYLON.

OF all the societies that are engaged in the enormously important scientific work of disinterring the remains of ancient civilisation in the countries of the Near East, probably the most successful, in proportion to the length of time it has been in existence, is the "Deutsch Orient-Gesellschaft." Here, as in other matters, the German has come late upon the scene, but he has made up for his late

appearance, not only by the amount of work he has done, but also by the way he has done it. Armed with ample funds derived from private subscribers, and made conspicuous by the special patronage of the German Emperor, the "Deutsch Orient-Gesellschaft" has carried on, or helped to carry on, excavations in Egypt, Palestine, Mesopotamia, and Asia Minor, which have produced results of the highest importance to the archæologist and to the historian of early civilisation. The excavations of the pyramids of Abusir, in Egypt, which date to the time of the Fifth Dynasty, have given us an entirely new idea of the art and religion of Egypt under the "Old Kingdom"; the disinterment of the ancient ruins of Jericho and Megiddo have made us realise better than before what the Canaanite civilisation was like; the discoveries of Dr. Winckler at Boghaz Kyöi have revealed to us a previously unknown period of the history of the Hittites, and those of Dr. Koldewey and Dr. Andrae at Babylon and Kala'at Shergat (Assur) have enabled us to study the actual ruins of the greatest city of the ancient world and of the oldest capital of Assyria.

The work at Babylon was the first undertaken by the society after its foundation eleven years ago. In March, 1899, work was begun on the Kasr, the "citadel" of Babylon, where are the ruins of Nebuchadnezzar's palace, and where he constructed the famous "Hanging Gardens" to please his Median queen, and make her fancy herself once more among the mountains, trees, and forests of her native land. Here was found an important monument in the shape of a *stela* of a Hittite king, which had been carried off by some Babylonian conqueror, probably from Carchemish. The great walls of the citadel, Imgur-Bel and Nimitti-Bel, have been uncovered, and the long "Processional Way of Marduk," between the two walls of Nimitti-Bel, have been revealed. Near by is the great mound, now called Tell 'Amrân ibn-'Ali, which covers E-sagila, the chief temple of Babylon's chief god, Marduk. And between this and the citadel is a space called *es-Sahn*, "the plate," in which stood a great *ziggurat*—temple called Etemenanki. This building, E-sagila, and the neighbouring temple of Borsippa, compete for the honour of being the legendary "Tower of Babel." Dr.

Koldewey seems to pronounce for the claims of E-sagila and Etemenanki against Borsippa, and has lately announced in an article in the *Berliner Tageblatt* that the excavation of the Tower of Babel "we now aspire to and expect." Whether E-sagila or Etemenanki, or the two together, are the basis of the legendary tower we do not know, but in any case the work will be of the highest interest. The excavations have also uncovered a temple of the god Ninib, E-patutula, and many streets; while the great palace buildings of the citadel, where Belshazzar's feast took place and Alexander died, have been shown to cover up on the river-side the remains of the quay walls built by Sargon and Nabopolassar.

Babylonian architecture was not beautiful, and in this, as in its use of enormous and imposing brick-masses, it reminds us strongly of the architecture of imperial Rome. As the brick at Rome was covered up by marble veneer, so at Babylon the brick wall-faces were often varied by coloured relief brickwork or hidden by coloured glazed bricks arranged in ornamental designs. The Gate of Ishtar at Babylon, discovered by Dr. Koldewey, has splendid decoration of both kinds, showing bulls guarding the gate. The

style of decoration with glazed bricks was borrowed by the Persians, and we see it in the splendid decoration from Persepolis now in the Louvre at Paris.

It is to be hoped that Dr. Koldewey has still more important discoveries in store. H. R. HALL.

THE NEGLECT OF GROUP-THEORY.

THE volume of "Proceedings of the London Mathematical Society," second series, vol. vii., contains twenty-six papers by such well-known mathematicians as Bateman, Bromwich, Burnside, Dickson, Dixon (A. C., and A. L.), Hardy, Harrison, Hobson, Lamb, Littlewood, Macdonald, Pidduck, Somerville, and Young. While these are mainly of too technical a character to admit of discussion in this notice, attention should be directed to some remarks in Prof. Burnside's address on the "Theory of Groups of Finite Order," as affording an object-lesson on the important question of "England's neglect of mathematics." Prof. Burnside states:—

"It is undoubtedly the fact that the theory of groups of finite order has failed, so far, to arouse the interests of any but a very small number of English mathematicians; and this want of interest in England, compared with the amount of attention devoted to the subject both on the Continent and in America, appears to me very remarkable." "So far as I have been able to learn, no course of lectures has ever been delivered either at Oxford or Cambridge on the theory of groups of finite order." "In fact, so far as the teaching of the subject in England is concerned, one may say that it does not exist."

It appears that during the twenty-one years of the now, alas! defunct "Part II." of the Mathematical Tripos, questions on finite groups have only appeared four times, and that it is doubtful whether four candidates have seriously studied the subject.

On the other side we have the following statement:

"In Paris M. Jordan gives a course on the theory of groups of finite order at the Collège de France at regular intervals to an average class of six students; while the Galois theory of equations is lectured on at the Sorbonne and the École normale, as well as at one or two of the provincial universities.

"In most German universities, the regular course of lectures on algebra, attended by large classes of students, contains an exposition of the more elementary parts of the theory of groups of permutations. In addition to this there are, in all the larger universities, special courses devoted to groups of finite order and to discontinuous groups, which attract a considerable number of students. For instance, such special courses last year were attended at Göttingen by thirty students, and at Freiburg by twelve.

"In the United States all the leading universities offer regular courses in the theory of groups of finite order, with the exception of Harvard, where a course is given on the Galois theory of equations. In some cases the course is a yearly one, and in the others it is biennial. These courses attract from two or three up to ten or twelve students, who in general have already taken the B.A. degree."

Prof. Burnside offers some explanations for this neglect, but probably the reason is a very simple one. If any English mathematician specialises in the theory of groups (and at least one instance is known to the reviewer) no university will offer him adequate remuneration for a course of lectures on the subject; on the other hand, the mathematical departments of English institutions of university rank are deplorably understaffed in comparison with those in foreign countries, and their teachers are far too overburdened with elementary work to be able to start courses or a subject like "groups," in addition to meeting the necessary requirements of their examination syllabuses. Prof. Burnside suggests that the cause may partly be

a lack of demand for instruction in the subject on the part of senior university students. But is it not the fact that such students are induced to give up advanced mathematical study and to take to experimental science in order to qualify for "research studentships?" If they persist in specialising in higher mathematics of any kind, they not infrequently do so at the risk of injuring their future prospects of obtaining appointments.

NOTES.

POLITICAL services and commercial prosperity appear to be the claims to distinction of most of the people whose names are to be found in the list of New Year Honours. The list includes the names of few men of eminence in the intellectual world—whether of science, art, or literature. One Fellow of the Royal Society—Dr. David Ferrier—has been knighted; and among the twenty-four other new knights are Dr. H. B. Donkin, Mr. G. Laurence Gomme, and Dr. G. Newman. Even in these cases, however, the honour appears to have been conferred for public services rather than in recognition of scientific work. The list has been received with the usual chorus of congratulation by the daily papers, but it can in no way be regarded as truly representative of the men who are rendering the best services to the nation.

THE Oceanographical Institute provided by the Prince of Monaco at Paris will be inaugurated on Monday, January 23.

It is announced that an association for the promotion of science, to be called the "Kaiser Wilhelm Gesellschaft," will shortly be formed in Germany. The first meeting of the association is to be held within the next week or two under the presidency of Prof. Emil Fischer, and the German Emperor proposes to be present.

THE Paris Academy of Sciences, at a meeting on December 29, 1910, discussed the question of the election of women as members of the Institute of France. We learn from the *Times* that the academy eventually came to the conclusion that each section of the institute has complete independence with regard to the election of members, and that each academy has the right to decide the question of the election of women to its membership. The subject is being discussed at a general meeting of the academies as we go to press.

WE regret to see the announcement of the death of one of the best known supporters of amateur astronomy in Germany, Dr. M. Wilhelm Meyer, who died recently at Meran, at the comparatively early age of fifty-eight. Dr. Meyer's astronomical career began at Geneva, of which observatory he was for a short time director. He signalled his connection with that observatory by an attempt to determine the density of the material near the nucleus of a comet by observing the displacement of stars over which the comet passed; but he is better known from his relations with the Urania Gesellschaft in Berlin and his efforts to encourage astronomical studies in those who frequented the observatory. He was successful in attracting those who were capable of using the equipment provided wisely and well. Among his pupils or followers may be mentioned Herr Witt, who discovered the planet Eros in the Urania Observatory. Many of his popular works have had a wide circulation, among which may be mentioned "Das Weltgebäude," a work addressed to those who were capable of following the detailed explanation of the more difficult problems in astronomy, and the